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# AMERICAN JOURNAL OF PHOTOGRAPHY

AN ILLUSTRATED MONTHLY  
DEVOTED TO PHOTOGRAPHY  
IN ITS WIDEST SENSE

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true as well as decorative, that is what Mr. Emerson denominates naturalistic.

That is, photographic naturalism is a decorative illusion of nature, a decoration-embodiment of some sentiment.

The harmonies of nature are altogether different from the harmonies of art, being dependent upon different phenomena. Nature sometimes "sings in tune," but Dr. Emerson claims that it is absolutely impossible to reproduce that harmony on a plain surface, a canvas or a photographic film.

The photographer like the painter, goes to nature with certain conceptions and finds a harmony in a lovely stretch of purple sand by the sea.

The photographer focusses upon the scene but does not satisfy his ideal, the view resulting is nothing like the ideal conception his vision had of the view before him, inasmuch as the camera imposes certain conditions which the photographer never saw in his mental vision.

Hence the frequent disappointment in the results in the photograph of what seemed to him a beautiful view. But the painter can better employ the personal expression of his ideal.

The beautiful photograph is therefore not art any more than is nature itself.

Such is a resume of Mr. Emerson's ideas of naturalistic photography.

Although his views will not always bear logical analysis, his book undoubtedly has been productive in creating a new departure in photographic art, (using the term advisedly). However much we may be at variance with his arguments, and however conscious of his numerous self-contradictions and want of critical judgment, Mr. Emerson has demonstrated that photography may become in the hands of an artist a method of expression producing works of fine art because no such work can be produced by a man who is not an artist. His whole book may be considered an eloquent defense of an enthusiast of the claims of photography to a high place in the rank and file of art, and though he maintains that it is but a mechanical process, we think he has ably demonstrated that personal modification is capable of moulding the pictorial elements of nature to a graphic representation limited only by the means at the artist's command.

Naturalistic Photography should be read by everyone, as



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it cannot help being profitable, and is above all very suggestive, furnishing rich food for contemplation, and in the practical portions of the work much that is valuable may be gleaned whether we agree with or differ from the author's ideas.

Although one is not willing to subscribe to everything asserted by Mr. Emerson, yet one is constrained to read on from page to page and is often delighted with the novelty of presentation.

The great virtue of the book is in its freshness. The reader is not wearied with reiteration of old hackneyed ideas and misapplication of stereotyped rules. It is a record of the author's opinion, and though we constantly cry out our dissent, we rise from the reading refreshed and animated with the desire to produce something beautiful by means of photography.

---

**The National Photographic and Allied Trades Exhibition** for 1900 will be held from April 27th to May 5th, in London Portman Rooms, which are especially adapted for the exhibition of technical and scientific apparatus connected with photography. Prospectuses and application forms may be had on application to the secretary, Mr. Arthur C. Brooks, 15 Harp Alley, Farringdon St., London, E. C.

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## CONVENTION DATES

### Missouri Convention :

St. Louis, Mo., August 22nd, 23rd, and 24th.  
Secretary, A. S. Robertson, St. Louis, Mo.

### Ohio Association :

Put-In-Bay, O., August 30th and 31st, September 1st.  
Secretary, C. S. Bateham, Norwalk, O.

### Photographers' Club of New England :

Boston, Mass., October 5th and 6th.  
Secretary, G. E. Putnam.

### The International Photographic Exposition :

New York, October 21st to 28th.

### Philadelphia Photographic Salon :

October 22nd to November 19th.

### Indiana Association :

Indianapolis, March 6th, 7th and 8th, 1900.  
Secretary, W. O. Nicely, Bloomington, Ind.



All subscribers to the AMERICAN JOURNAL OF PHOTOGRAPHY are eligible in the competition. The decision as to the merits of the pictures will be made by an acknowledged authority on technical photography, and also by two well-known artists.

The criticisms of the awarded pictures will be published in the AMERICAN JOURNAL OF PHOTOGRAPHY.

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#### THE AWARDS

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2nd,.....	Five "	(\$5.00)
3rd,.....	Three "	(\$3.00)

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#### RULES AND CONDITIONS

All prints must be mounted, with the name of the competitor written on the back of the card. Title may be placed on front.

The number of prints submitted in each class shall not exceed two for any one sender.

No prints previously awarded prizes will be admitted.

Each contestant must be a subscriber to the AMERICAN JOURNAL OF PHOTOGRAPHY. Subscription may accompany the entry of the prints.

Prints must be sent fully postpaid.

When the sender desires the return of prints, stamps must be enclosed: otherwise the prints will not be returned.

Awards will be made in each case on the 15th of the month following entry.

---

#### AWARDS FOR WATER PICTURES

- "A Day in June,".....Charles H. Carroll, Elmira, N. Y.  
 "Cobb's Creek,".....Wm H. Ingram, Phila., Pa.  
 "Ohio Canal,".....E. C. Hrabak, Cleveland, Ohio.

#### AWARDS FOR LANDSCAPES

None.

## REPORT OF THE COMMITTEE ON SELECTION OF PRIZE PICTURE FOR AUGUST

**B**Y some unexplained misunderstanding on part of the competitors for the prize offered by the AMERICAN JOURNAL OF PHOTOGRAPHY, on the subject of *Landscape* (pure and simple), few of the pictures offered for competition could be ranked under the term Landscape. The judges could not adjudge upon the merits with any degree of justice, and have therefore determined not to make any decision.

Those of the pictures submitted, which possess qualities which would have entitled them to awards under other classes, do not come sufficiently within the designation of the class for which the prizes were specially offered. Consequently the judges make no decision.

WILLIAM H. RAU,  
A. T. COSTELLO,  
HENRY P. OSBORNE.



One of the Beef Eaters

W. T. JENNINGS

## STREET SCENES IN LONDON

W. T. JENNINGS

THE commonest sight in London is the Kodakist. It is estimated that the Tower is shot at not less than five thousand times a month during summer. Why brick



The English Bobby

W. T. JENNINGS

and mortar has such a power of attraction for the camerist is a difficult problem to solve.

To us it used to be a source of wonder why the lights and shadows of London life were not oftener put upon record—until

we tried it. There are many stumbling blocks to success in this field. First the weather, for in the city it rains or fogs nine days out of eight. Then the crowds, and the inability to look sixteen ways at once, and last, but by no means the least, the sudden appearance of the idiot in the immediate foreground who promises that if you'll "tyke 'is potygrarf" he will not "brike the camera," for which new "joke" one of the large axes in the Tower of London bears a bloody imprint.

By means of a quick-working lens, with full aperture, and a



Fortune Teller

W. T. JENNINGS

slow-moving shutter it is possible to catch from time to time at rare intervals, odd pictures of London street life.

Walking to and fro near Trafalgar Square, "Tommy Atkins" will be found on the alert for raw recruits and his smart uniform and pill-box hat quite in contrast to the nightmare outfit of the Beef-eater at the Tower. We had always been led to believe that the English "Bobby" is the best dressed officer in the world, until we looked at him in a retrospective way, and sighed.

Life has many illusions.

It is a treat to step aside from the rumble, rush and roar of the city streets and wander through any of the numerous parks to find perhaps a fortune-teller settling the destiny of two fair maidens, for the small outlay of a penny, or to watch a burly British workman sharing his dinner with his little feathered friends, while outside, tightly grasping the pocket where his money lies, goes his master to make a bank deposit.

After a storm, while the streets are all ashine, it is possible to



Feeding the Sparrows

W. T. JENNINGS

obtain quite interesting wet weather studies. The wide stretch of asphalt pavement in Trafalgar Square, offers golden opportunities for this class of work, but in order to secure satisfactory results, the camerist should remember these five essential points, the outcome of expensive experience—fast plate, quick-working lens, large stop, slow-moving shutter, and *weak* developer.

In order to attract as little attention as possible all outside hand camera fittings should be made dead black.

Never allow the "sitter" to know he will be or has been "shot." Immediately after the operation become intensely absorbed by something or someone in the opposite direction and thus disarm suspicion and possibly save a swollen cheek, or half-closed eye. No prominent person nowadays long escapes the glass eye of the kodak, and electrocution is far too good for this kind of button presser, who makes it difficult for anyone to put on record a few odd phases of life in that dear, damp, grimy, slimy city of London.



Trafalgar Square—Wet Day

W. T. JENNINGS

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6, FARRINGTON AVENUE, LONDON, E. C., September 7th, 1899.

AMERICAN JOURNAL OF PHOTOGRAPHY :

GENTLEMEN :—I regularly see your Journal, which is amongst our most valued exchanges.

Yours faithfully,

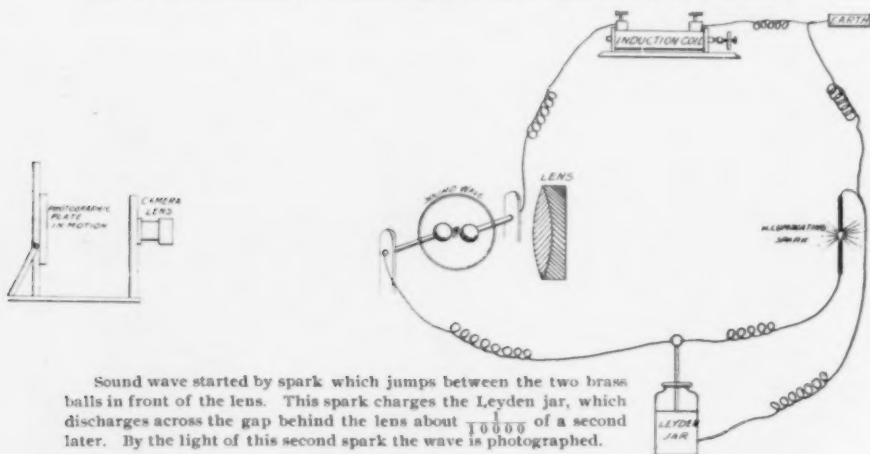
H. SNOWDEN WARD,

Editor of *The Photogram*.

## PHOTOGRAPHING SOUND-WAVES

*Paper read before the Photo. Soc. of Phila., April 21st, by Prof. R. W. Wood, Univ. of Wisconsin.*

THE difficulties of photographing sound-waves may be easily understood, for the wave is not a very conspicuous object, and moves very rapidly. The condensation starts at the center or source of sound, and moves out in all directions at a velocity of about a thousand feet per second, forming a spherical wave of dense air. To photograph such a wave, it is necessary to illumine it with a flash of light of exceed-



Sound wave started by spark which jumps between the two brass balls in front of the lens. This spark charges the Leyden jar, which discharges across the gap behind the lens about  $\frac{1}{10000}$  of a second later. By the light of this second spark the wave is photographed.

ingly short duration, for in  $\frac{1}{10000}$  part of a second, it will move over an inch. The flash, therefore, must be as brief as  $\frac{1}{100000}$  of a second, and the only source available is the electric spark. Then another difficulty is to get the flash to occur at exactly the right time; a little too early or a little too late, and the wave is not yet in or has passed out of the camera field, so that the problem is to arrange that waves of sound come into the camera field, and there be illumined by the flash of light at exactly the right time. Another difficulty is the inconspicuousness of the wave, as before stated. If air is heated or cooled, and illumined in just the right conditions, it becomes visible, as, for instance, the hot air arising from the flue or chimney; its optical properties are changed by heat or cold,

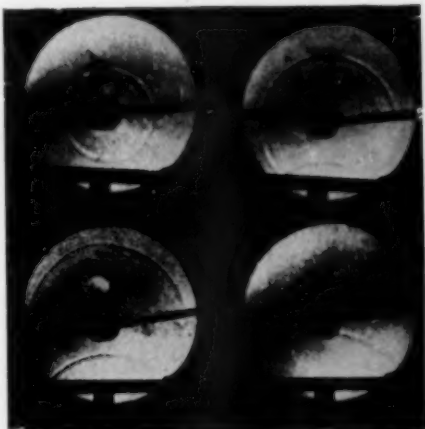
and it becomes visible by the differences of the refracted image. A wave of sound is a condensation of air, and if it can be illuminated rightly it can be seen in the same way.

This condition is secured by means of an apparatus devised about twenty years ago, by Toepler, a German physicist, and used for detecting minute changes in optical properties. The arrangement by which the spark is made to come at the right moment is as follows: The sound-wave to be photographed is caused by the crack or snap of an electric spark, giving a very sudden, sharply defined wave. The use of the electric spark also enables us to get the illuminating spark to flash at just the right interval.

The spark which starts the sound-wave passes between two brass balls (one in front of the other, so that the spark is shielded from the camera), supported on two brass rods in front of a condensing lens. One of these rods is connected with an induction coil. The current, after it has passed across the gap between the two balls, thus starting a sound-wave, charges a Leyden jar, which immediately discharges itself through two wires between two little strips of magnesium ribbon behind the condensing lens, which parallels the rays of light.

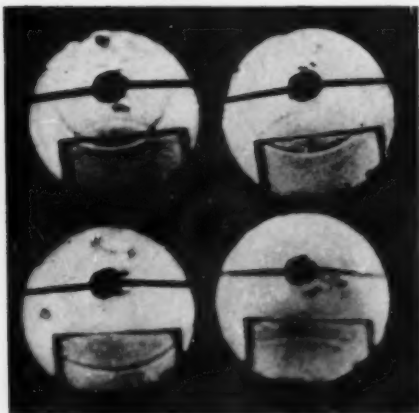
This second spark flashes and illumines the sound-wave at an interval of about the  $\frac{1}{10000}$  part of a second after it has started and before it gets out of the field of the large condensing lens. Owing to certain irregularities in the lapse of time between the two sparks, the sound-wave is not always caught at exactly the right time. It may be only just started, or it may be nearly out of the field of the camera.

The sparks which cause the sound-waves occur very rapidly, fifteen or more to a second, so that if a camera were simply set up and exposed in the ordinary way a number of superimposed images would be obtained, so that it is necessary to



Refraction of sound wave or echo from flat plate.

break this multiple image into single images, which is attained by having the camera objective mounted on an iron frame, exactly focussed on the plane of the sound-wave, then the sensitive plate is moved rapidly up and down in the focus of the lens, the whole operation being carried on in a dark room. As a result, about fifty or sixty images are obtained on a single plate in about ten seconds, from which a series can be selected. The pictures all show a circular evenly illuminated field (the condensing lens), upon which are two dark bands (the two brass rods), the sound-waves appearing as circles of light and shade, being spheres of which a section is seen in the photograph.



Refraction: Slower speed of the wave in glass tank filled with carbonic acid gas.

The reflection, refraction and diffraction of sound were shown in pictures on the screen. The reflection was shown by placing a plate of glass a little below the spark gap, the glass reflecting the sound, as theory demands; that is, as a curve of the same shape and size as the incident wave, but reversed in direction. The delicacy of the apparatus is so great that the mass of hot air rising from the first spark was shown, appearing like a puff of steam.

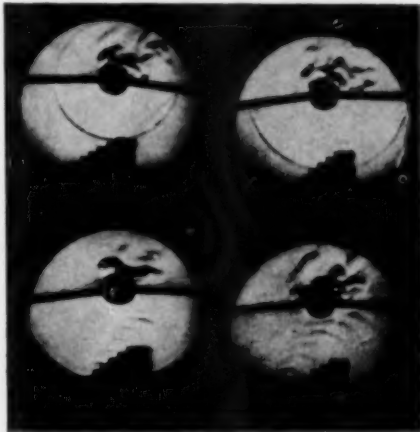
Reflection from concave mirrors was also shown, both by

bringing sound-waves to a focus and starting them from the focus, throwing them off in straight instead of curved waves, illustrating the analogous phenomena in light.

Sound-shadows are found only under special conditions on account of the fact that the waves are very long, and bent around obstacles, so that the sound must be very shrill and the obstacle very large to make anything like a shadow. By placing a small piece of glass under the spark a picture can be obtained showing a sound-shadow of limited extent, the glass reflecting back a section of the wave, leaving a gap which, however, a moment or two later closes up again, and the wave continues as before.

Reflection of waves from a diffraction grating was shown by reflecting the sound-wave from a series of little strips, each one of which sends off a little secondary wave, the waves being superimposed on each other, not interfering at all. The phenomena attending reflection from and transmission through a series of slats were also shown. The reflection of a sharp, short sound from a picket fence as a distinct musical note was illustrated by a little flight of steps reflecting the sound-wave from a spark, each step sending an echo, and these echos following each other at equal intervals, producing a musical note.

Refraction of sound by means of carbonic acid gas was also illustrated by means of a glass trough filled with the gas and covered with a film of collodion of soap-bubble thickness. As light is retarded by passing into a dense medium, so is sound retarded, the flattening of the wave being shown in the photographs. The opposite case, that of refraction into a medium of less density, was shown by the use of hydrogen gas, the wave going farther in the same time than it would in air, as shown by comparison with that part of the wave reflected back into the air by the thin collodion film. When the sound-wave was refracted through a carbon dioxide prism, the bending of the wave was quite perceptible.—*Journal Photo. Soc. of Phila.*



Formation of a train of waves or musical note by reflection of single wave from flight of steps.

PASADENA, CAL., Sept. 7th, 1899.

AMERICAN JOURNAL OF PHOTOGRAPHY :

GENTLEMEN :—Your sample copy (August number) of Journal duly received. Am much pleased with the fine quality of half tone plates, paper, etc., used ; also the encouragement of healthy prize competition.

Its all an advancement in the right direction, and I will lend my encouragement by the enclosed subscription—and later on by some photos for prize competition. " Let your good work go on."

Yours respectfully,

W. H. HILL.

## BACKGROUND AND ACCESSORY

ARTHUR ENNIS

**S**TUDIO backgrounds, that is such as are generally employed by the professional photographer, are intended either to give relief or plasticity to the portrait or to furnish a setting to the figure as for instance, landscape, sea views, garden prospect, or parlor or salon, so as to give character or motive to the subject.



Landscape Study

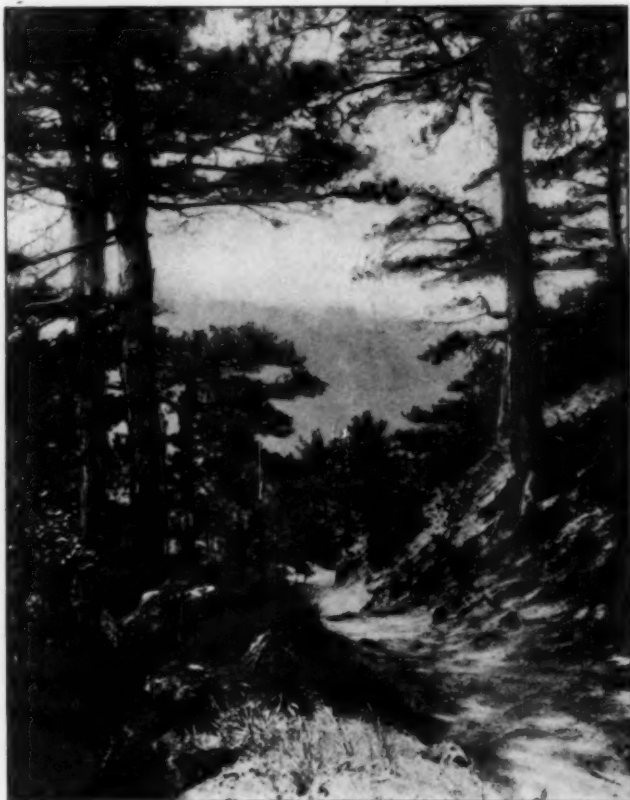
DILLON, PHILA.

On general principles the background should not come forward too obtrusively and when not dark and plain in its effect, should simulate atmosphere behind the head, and should merely suggest detail if drapery is intended to be introduced as a setting.

Where scenic backgrounds are employed, great care should be taken to secure correct proportions in the perspective, neither to have too great distance represented nor too confined perspective. It is just the same want of harmony which is encountered in a

too extensive prospect in a scenic background which one meets with in a photographic landscape. In both cases too much is taken upon the limited area.

The *motif* is lost in the superabundance of detail which challenges attention.



In the Black Forest

Generally there is too much background, frequently there is only distance without a trace of middle or foreground.

And this difficulty, from paucity of foreground, of making the figure in harmony with the background cannot be overcome by

introduction of supplementary accessories which are generally drafted into service.

Painted or carved accessories are only of value to the photographer of artistic taste when they can be used to carry out his



**Peek a Beck**

FRANK M. BUTCLIFFE, WHITBY, ENG.

ideas of composition in an intelligent way ; to break up for instance inartistic lines in the composition or too obscure parts which might be too obtrusive.

Yet with what confidence in the anticipation of good results will the professional photographer twirl around with the greatest

alacrity his stock of movable accessories to their positions in the scene, possessing himself with the assurance that the effect will be striking, when to the cultured artistic eye the result is most absurd; the more so in proportion to the elaborateness and magnificence of the accessories themselves.

The professional photographer seems to abhor a vacuum as much as does Nature (according to the old school of philosophers.)

The fear of a hiatus in their pictures makes them enlist at once the service of some accessory—however incongruous it may be to the scene. It is there to balance according to the set formula of artistic composition, but the picture might have been more honored by its absence.

I have seen genre photographs, pictures of domestic scenes, where so many accessories were employed in the composition that the result gave the impression that an auction scene was being represented. And the result is even worse when shop-accessories are used the impression then convey that it is a photographic stock house which is up for sale.

The danger of encountering such results is occasioned by the general practice of arranging the accessories in artistic groups before the figure itself is posed.

It is advisable to first pose the figure or group, according to your conception and then judiciously employ your accessories to supplement your idea, or rather, make them harmonize with it. So that while we do not intend to deprecate the value of the accessory, we do deprecate its incongruous use. Unless the accessory contributes something to the interpretation of the idea, motive or sentiment of the composition, it is eminently out of place.

A single head rarely needs any accessory. It is more apt to attract attention by omission of all accessories especially if the natural balance of the head upon the shoulders has been artistically studied. Where there are two or more figures in the group, accessories may be effectively introduced—but of whatever character they may be, whether furniture or rock or wall, they should never advertize the fact that they had been put there with intent *prepnese* by the photographer. They should seem to form an essential part of the composition by the very fact of their want of prominence and should be discovered only by one who is

analyzing the artistic effect produced by the whole composition.

The true professional photographic artist is one who endeavors to get up an appropriate setting with every fresh subject, one who never relies on fore-knowledge of a previous excellent result secured by a certain set combination of background and accessories which may be got together in a trice.

He should be ever in search for new combinations, new associations with every new subject.

Such a method might to be sure militate against the accumulation of shekels, *if time is money*, but might in the long run be the best policy even from a pecuniary point of view.

Amateurs devote more care to the study of effect by harmonious management of sitter in reference to accessory and background, and consequently the result is far more artistic, and professionals have of late yielded to the demands of an artistic public for something similar. Our amateur salons have done more in the last half-score of years to demonstrate the artistic possibilities of photography than all the photographic convention exhibitions from the time of their inception, (which is I believe over thirty years ago), to the present day.

To come now to some practical consideration, after having so touched upon the importance of harmonious relations of subject background and accessory, let us make some adaptation of the principles advocated, but we would advise individual study of the subject rather than the adoption by the photographer of set formulæ for production of artistic effect.

The subject itself in portraiture should be the paramount study; its characteristics taken into consideration and the background and accessory brought into relation with it either to emphasize or tone down its individuality.

For strong characteristic heads, the background should be lighter in tone than the prevailing tone of the head. But when a delicate subject comes under consideration, as for instance the blonde head of a lady, the tone of the background should be darker than the prevailing tone of the subject, but not so dark as to give hardness and abruptness to the portrait. Most studios have only the plain background, dark and light, and these two are called into requisition for the numerous varieties of portrait heads which the professional is called upon to make. There are only two categories of photographic portraits, darks and lights,

and the two backgrounds, are alternately adaptable. Whereas to accommodate the artistic demands of photographic portraiture, there should be a score or more of shades of background. Indeed the trained artistic eye would like to paint a special background for every fresh subject.

When dark backgrounds are employed the general rule is to have them in tone some degrees lighter than the shadow side of the face. This to be sure, gives relief and plasticity to the head, but relief alone will not suffice if atmosphere is not suggested. The head must never give the appearance of having the relation of a mosaic with respect to the ground. This atmospheric effect may be aided by placing the ground a considerable distance from the figure and properly lighting it by adjusting it to certain angles with respect to the source of illumination.

Finally the professional photographer does not seem aware of the artistic possibilities of drapery background or he would make more frequent use of it.

---

## GUM BI-CHROMATE

HENRY HOWLAND

THIS process of pigment printing, may be considered the most fascinating or the most disgusting method of photographic printing, according to the measure of success or failure encountered.

When complete success is attained it certainly does give greater wealth of gradation and artistic effect than any method in operation at the present time. Effects more approaching painting will delight the successful operator and results the most woe-begone the unsuccessful. The latter unfortunate will denominate it the most mussy, dirty, disgusting process ever devised by a crazy photographer.

Our photographic salons will soon blazon forth the beauties of photographic art, and the aspirants after glory will find in the gum bi-chromate printing something which will attract the artistic eye. However, it is but little practised in this country, whether from ignorance of the method, or from want of success in the manipulation, it is difficult to say.

It is a process depending for success mainly on the skill, tact and ingenuity of the printer. The paper and material employed, are, however, also factors.

The personal equation contributory to success is in local modification by use of brush, jets of steam and other dodges,—that is, skilful monkeying.

First as to the paper.

A strong fibre paper of somewhat rough surface is best adapted. The paper must first be sized.

Take a solution of hard gelatine, 1 gramme to 60 c. c. m. of water, and to every 60 ounces of the solution add 7 c. c. m. of 1 % solution of chrome alum. Heat the solution before use to 120°.

The coating is done by gaslight. The sheet is first floated for two minutes upon a ten per cent. solution of bi-chromate of potassium, dried thoroughly and then wet with the pigmented gum.

To make this pigmented gum, a twelve per cent. solution of gum is required, to which as much pigment is added as is found necessary.

The pigment is any moist water color, generally sold in collapsable tubes. The paper is pinned to a board and the solution applied by means of a hogs-hair brush, followed by a badger blender to soften and equalize the coating.

Use the finest gum arabic only, and do not employ over 150° heat of the water to dissolve it or there is a danger of decomposing the gum. Strain well through coarse muslin to get rid of any sediment.

The amount of pigment should be such that the mixture when spread upon paper, should have a decidedly translucent appearance when examined by translucent light. Thoroughly incorporate the pigment with the solution and filter again through muslin.

Dry before the fire or let the paper dry spontaneously and of course in the dark.

A rather thin soft negative with clean shadows gives the best results. The printing is done by strong diffused light, but where the negative is somewhat dense, direct sunlight may be employed.

The degree of printing may be estimated by looking through the print.

The printing should be carried beyond what appears necessary

for the high lights. But exact exposure can only be learned by trial.

When sufficiently printed, the development takes place in hot water.

According to Mr. Maskell, who has produced fine results, greater sharpness and vigor is secured by using boiling water than with a lower temperature as was formerly done.

The print is supported upon a piece of glass and the hot water applied by a cup.

Development of tardy parts may be accelerated by a jet of hot water.

After development the print must be put in an alum bath for a minute or two, washed and dried.

Different colors may be had upon the same print by process of double printing. As for instance, a separate sky from another negative.

Resensitize the part desired to be printed upon with the desired colored gum bi-chromate, dry and re-expose (the landscape of course being masked) and then develop.

The gum bi-chromate process presents some difficulties, but with care and exercise of taste and judgment, the most charming results may be obtained, incomparable with any other process not excepting the more uncertain and far more troublesome carbon process.

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## WINDOW TRANSPARENCIES.

A. J. H.

THOSE who have had experience in the making of lantern slides are well aware that however beautiful a glass positive may appear when examined by transmitted light, that is when held up towards the light and looked through, its qualities as so considered cannot be taken as a criterion for judging of the appearance it will have when projected upon the screen by the magic lantern.

To the eye the glass positive, so examined, may have everything desirable—crispness, softness, abundance of gradations of

lights and rich transparent shadows, but all these may suffer by probation when subjected to a cross-examination in the ordeal of the lantern light.

The knowledge acquired by a long experience in handling lantern slides is the only surety one can have that his judgment is just when decision is given in opposition to the criticism of one who thinks his estimate of apparent virtues in the slide is true and righteous altogether.

With wet collodion the conditions controlling the production of good work, that is work good for the purpose intended,—lantern projection, are more in abeyance to the operator and a uniformity of results more constant. But it is otherwise with the making of lantern slides with gelatine plates. There is not the same assurance that the products will be always the same under the same conditions.

With wet plates if the collodion is properly constituted and the bath is in good working order the work becomes almost automatic. However, those qualities which militate against the slides' perfection, are by no means inimical to the beauty of results when the positive is intended to be hung up at a window.

Window transparencies may be made either by contact printing or by reduction or enlargement in the camera.

Contact printing is perhaps more generally employed when the negative is of a proper size for framing.

If a mat is employed to cut off marginal portions, care should be taken to secure the thinnest possible paper which shall be thoroughly opaque, otherwise the margins will be hazy. A pad in the printing frame is also necessary to insure perfect contact of the two surfaces.

It is generally advisable to employ a slow variety of gelatine plate, one in which there is a percentage of iodide of silver. But, if care is taken in exposure with a rapid plate so as not to produce halation or blurring of the high lights, as good results may be obtained. The double coated plates are excellent for this purpose, and the plate which is known in trade as Carbutt's Process Plate, is especially adapted for the production of brilliant transparencies.

The writer does not know whether the Carbutt A and B plates are still made, but if in the market, the photographer will find them most excellent for making transparencies.

The exposure when made by contact in the printing frame, should be by gas or artificial light ; the frame being held at about eighteen inches or more from the source of illumination. In vignetting the distance should be increased to five or six feet so as to avoid harsh shadows around the vignette.

The frame, whether vignetting is employed or not, should be covered with tissue on the outside. Then portions which would be liable to print too intense while the high lights were exposing, should be shaded by masks kept in gentle motion to prevent impression of definite outlines on the plate.

The duration of exposure will of course depend upon the character of the negative. On general principles it is best to give full exposures. And here we may say that a rather soft negative yields much more harmonious positives than a contrast negative—inasmuch as vigor if necessary, may be given to the positive during development by regulation of its constituents and by judicious use of restrainers.

Ferrous oxalate is generally used as a developer, but equally good results may be secured with the employment of the new developers.

Pyro has a tendency to discolor the film, especially if soda is used as an alkali. The addition of a considerable amount of sodium sulphite to the pyro developer, a good washing after development and clean fixing will ensure bright positives.

If the ferrous oxalate is used as a developer, though it may be antiquated, the operator will be delighted with the exceeding beauty of the positive which no other mode of development can exceed. Never use even a slightly turbid ferrous oxalate developer, and always use in connection with it a few drops of citric acid (10 % solution), and also a few drops of a ten per cent. solution of bromide of potassium. A few drops of syrup (sugar 1 part, water 10 parts), will give density and body to a positive and a delightful crisp relieved appearance.

If the ferrous oxalate developer is not used, the following mixed developer will be found to work well.

a. Hydroquinone,.....	.80 grains.
Eikonogen,.....	.80 grains.
Sulphite of Soda, .....	1 ounce.
Water,.....	32 ounces.
Sulphuric Acid, .....	1 drachm.

- b.* Carbonate of Potassa,..... 2 ounces.  
 Sulphite of Soda,..... 1 ounce.  
 Water,..... 32 ounces.  
*c.* Bromide Potassium,..... 1 ounce.  
 Water,..... 4 ounces.

Use equal parts A and B with 5 drops of C.

The ferrous oxalate developer generally gives results beautiful enough without toning, but if one desires to tone the transparency any particular color, any of the well known toning baths of platinum, gold, uranium, palladium, etc., may be used.

Palladium gives a most beautiful dark purple tone if very dilute bath is used and the action long continued. The writer has made quite a number of toned transparencies with the use of palladium, very dilute and continuing the action by means of a mechanical rocker, for eight or ten hours.

The following method gives beautiful tones.

First tone with gold, 1 grain to ounce of water, wash off the plate and intensify with following :

- Bi Chloride of Mercury,.....  $\frac{1}{2}$  ounce.  
 Chloride of Copper,.....  $\frac{1}{2}$  ounce.  
 Hydrochloric Acid,..... 5 drops.  
 Water,..... 16 ounces.

Rock the plate in this solution until the image is bleached through to the back ; then blacken with weak ammonia water.

Russet tones may be had by developing the image up to a certain degree—not full density. Then washing off thoroughly and immediately placing the positive before fixing in the above mercurial solution until the image entirely disappears, then washing it most thoroughly and fixing in the hypo.

The hypo sulphite restores the bleached-out image. The color of this image so obtained may be modified further by toning with gold.

If after-development and fixation, the transparency is subjected to a toning consisting of :

- Iodide of Iron,..... 1 drachm.  
 Water,..... 16 ounces.  
 Iodine, Tinct.,..... 5 drops.

a most beautiful opalescent effect is produced, together with a pleasing rose color of the image. Such transparencies need no ground glass, and may be advantageously employed for ornamental screens for lamps, etc. To prevent scratching of the sur-

face of the film they may be mounted under plain glass, or the film itself may be hardened by bathing the plate in a solution of Formaldehyde.

Formaldehyde,.....1 drachm.  
Water,.....8 ounces.

## ALUMINUM FLASH POWDERS

A. J. HAHN



R. George Rau's paper on "Flash-light Compounds," contributed to a recent number of your journal, speaks of the value of aluminum metal in giving an intense actinic light for photographic purposes. Mr. Rau recommends the commercially prepared aluminum silver bronze, which is a very finely divided form of the metal. But the bronze is contaminated with a greasy body, which is added, I suppose, to cause the bronze powder to adhere to surfaces. But, however useful as associated with the aluminum as a bronzer, it is not at all desirable in connection with flash powder, and it will be found best to get rid of it in compounding your flash powder. For this purpose all that is necessary is to heat it in a test tube, or other receptacle, over a Bunsen burner or spirit lamp. So purified, it may be used alone, as magnesium is, and projected directly into the flame, giving a much more powerful light and not as annoying fumes. The presence of the grease causes the aluminum powder to clot and prevents its full energy being utilized.

As Mr. Rau suggests, its combination with amorphous phosphorus, and barium and strontium nitrates, makes one of the most powerful artificial lights for photographic purposes. It is surprising what an amount of energy a few grains of such a combination possesses, and, I think, if ordinary care is used, there is but little danger attending. I keep my chemicals separate and mix only the quantity needed for the occasion. In this manner one secures the full energy of the powder in its dry state, avoids any risk of caking of the powder caused by the tendency of the strontium and barium to absorb moisture from the atmosphere, and also reduces to the minimum the risk of explosion.

## TEXTURE AND WOOLINESS

GEORGE HAMNER CROUGHTEN

**F**OR the translation of the texture of natural objects to the flat surface of a picture the painter is compelled to acknowledge the pre-eminence of the photographic method of reproduction over the most accurate drawing. Indeed, it is impossible in painting to secure a natural texture in the face, by any direct imitation of nature.

The artist has recourse to various expedients of scumbling, glazing and leading up his colors which gives the semblance of the human countenance only when his picture is seen at a certain distance.

True with the ordinary hetero-chromatic plate, the flesh, owing to the mixture of yellow with the fairer tints even in the most delicate complexions cannot be had in all the proper tone relations, and even with the orthochromatic film the difficulty is not completely surmounted.

To compensate for this shortcoming, recourse is had to retouching which is legitimate enough if judgment and discrimination is exercised, but frequently the inconsiderate wielder of the lead makes matters worse by obliterating all the beautiful natural texture which the unerring pencil of light has so charmingly delineated.

But much, too much has been written on the subject of retouching to dwell upon the topic here.

Its abuse is not so flagrant as in days gone by when the egg-shell structure was called the building up of the negative.

Yet we cannot refrain from noticing what an abomination are those marble or plaster-like heads which first-class photographers even now-a-days, exhibit as artistic studies; devoid of the beautiful gradations of light and shade set in a drapery which has escaped the lead of the retoucher and therefore left to display with faultless accuracy the texture of the fabric; by its very faultlessness rendering the head more unsightly by contrast. Yet such abominations continue to survive, applauded by the public and accorded medals at our conventions.

I do not wish anyone to think that I decry retouching in toto.

It is accessory, but only accessory, a means to an end not an end in itself.

With proper lighting there is little necessity for the assistance of the retoucher.

The rule should be, tamper as little with the natural texture photography gives us by proper illumination. Mend defects and flaws of nature, by endeavoring to match as far as possible the photograph's rendering of the fleshy envelope, but do not substitute egg-shell structure for nature's subtle rendering and demand the artist to admire the *building*.

If a subject is properly illuminated as I have said, and a just exposure given, there is scarcely any need of the retouching pencil.

The development to be sure comes in for a claim for successful results, since even proper exposure and illumination may be nullified by improper development. But on general principles the photographer who takes pains to properly illuminate and properly expose, is hardly likely to mar his results by careless development.

One great destroyer of natural texture in the flesh is to be found in the improper use of a reflector for the shadow side of the face. Most photographers think that the reflecting screen is a constant and indispensable factor. I have seen a professional photographer after having secured what seemed to my eyes a charming and characteristic illumination of the delicate tones in the head of a lady sitter, wheel into position without the slightest consideration of the purpose and without any trace of remorse for the utter destruction of the subtle, delicate and translucent shadow on the side of the face not exposed to the dominant light of his studio. Habit has much to do with such performances or rather the fear that after all the shadow side will be too much in contrast to please his patron.

Of course there are times when the reflector is essential and it is only against its injudicious and indiscriminate use that I cry, "hold! enough!!"

Take an ordinary sky-light, shut out all side-light and then examine the effect of such an illumination upon the face. The more the light is to the front the less marked are the features and also the less the texture.

Shutting off front light and employing only such a side light,

what the effect produced? What an exaggeration; every imperfection comes out in bold relief. Texture cries out with a vengeance. When the light is behind the result is also an exaggeration, and the subject would know herself only by identification of her dress.

In such cases unless reflecting screens are employed to soften the heavy shadows, one would prefer even the egg-shell building up of the retoucher.

But if the retoucher is called improperly into service, we will get much of that lack of detail which excessive front light gives. Over reflection is therefore as bad as over retouching.

Some very successful portraitists discard altogether the reflecting screen, and secure harmonious illumination by skilful manipulation of the blinds, so that with proper exposure and development a wealth of not too obtrusive detail is obtained which is far more pleasing than the lit up shadows from white reflectors or the lack lustre muddy looking smudges sometimes raved over by salonic critics.

Under exposure,—forced in development, always give coarse images, while over exposures are equally destructive of the beautiful rendering of the face.

Over softness or wooliness in a picture is not pleasing to the artist though not quite as displeasing as harshness.

There is always a middle ground wherein good art may stand, and if there be any leaning to the one side or the other, it should be in favor of delicate gradations.

In out-door portraiture reflectors are wholly unnecessary. Here by judicious control of the lights (for the light is just as much under control out-of-doors as in the studio) the most charming results are obtained and a world of happy detail not too self-asserting, both in shadows and high lights.

These out-of-door portraits by our best amateur photographers, are a source of delight to the artist who will scarcely notice an elaborately retouched professional head.

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**The Obliging Camera.**—MAUD: "Do you like to have men flatter you."

ETHEL:—"Oh, I don't mind, if they happen to be photographers."—*Bazar*.

## PLATINUM PRINTING FOR THE BEGINNER

FRANK WONDERLY

**W**HILE carbon printing is on a rapid decline, despite the beauty of the results, platinum printing is having its right ascension,—and has even become the standard whereby other printing paper qualities are judged.

Papers of all kinds are advertised as equaling in effect platinum, matt surface, aristo platina, etc., and formulas for toning are given for platinum effect, which, by the way, no one ever succeeds in getting, there being a certain amount of greasy appearance which tells the origin of the print.

Nor do I think it very difficult to distinguish between the best bromide print under whatever name and a fine platinum when seen side by side. Now it always seems strange to me why amateurs should take the greatest amount of trouble and pains to get something looking like platinum when the real platinum may be had for the exercise of a little care and attention and a little training of the judgment. Really it is not much more difficult to make a good platinum than a good blue print; that is, a print on ferroprussiate paper.

The platinum print is in fact at its first stage an iron print, the ferric oxalate in the paper being reduced by the action of light to the ferrous oxalate, appearing as a faint gray image upon the yellow local color of the paper.

This partially printed-out image of ferrous oxalate is floated upon a solution of potassium oxalate (the developer) which dissolves the iron salt leaving the platinum which is mixed with it, forming a beautiful black and white image. The iron which remains in the paper is eliminated by means of an acid bath.

One great advantage of platinum over other printing processes is the rapidity with which the results may be accomplished. There is no lengthy toning, fixing and washing. Fifteen or twenty minutes suffices to complete the whole operation.

Platinum paper does not keep quite as well as one would desire both before and after printing, but this is hardly an objection to the amateur who need not work with a great number of prints as is sometimes required by the professional.

Platinum papers must be kept in a dry atmosphere as the slightest dampness spoils them; but if the chloride of calcium preservative is placed in the tube and rubber bands kept around the ends the paper will last for several weeks in first-class condition. It is well to develop the prints immediately after exposure especially if the weather is moist and hot.

The calcium chloride is put in the tube because it absorbs moisture, and when it becomes moist fresh chloride ought to be substituted. The old calcium chloride may be made useful again by heating it red hot in a crucible, which drives off the water.

The first thing to consider is the degree of printing, that is, how deep the image on the yellow ground ought to be. Of course nothing but experience will enable you to judge, and experience is just as necessary in making an exposure on the ordinary blue print paper, and no one thinks the accomplishment of the proper degree in blue printing a very great feat.

One thing remember, the platinum paper is many times more sensitive than blue print paper and when examining the progress of your work do not gaze too long and lovingly or in too strong a light at the semi-printed image. Be a little quicker in judging than you would with a blue print.

The development is simple enough. Development takes place by floating the paper upon the surface of solution of potassium oxalate and should be done in a feeble white light. Gaslight may be used but it is more difficult to judge thereby the proper degree of development by reason of the yellow light. The developer is composed of saturated solution of potassium oxalate at a temperature not lower than 70° F.

One end of the print is taken in the hand, face downward, so that one edge is just at the surface of the developing solution. Then draw the print along the surface whilst the other hand lowers the whole print into contact with the developer.

The object of this is to prevent air bubbles and to get the surface of the print in perfect contact with the surface of the liquid. The print should be lifted up and examined. If not of proper density immerse immediately under the developer and flow the liquid over it.

When complete lift up and transfer at once without washing to the acid solution. Hydrochloric acid or citric acid may be used; the latter is preferable: 1 oz. acid, 20 ozs. water.

Allow the prints to remain five minutes in the acid\* bath, then transfer to a fresh acid bath for another five minutes.

Fresh acid baths must be used each time and in some cases it may be necessary to give a third or even fourth bath of acid. Finally wash for ten or fifteen minutes in running water.

The quality of the platinum print is determined more or less by the nature of the negative, and some modifications are necessary for particular negatives.

Weak negatives yield richer prints with more contrast by slightly under printing ; stronger and colder developer.

Strong negatives require on the other hand longer exposure, weaker developer, and a high temperature. However, the developer ought not to be diluted to a degree which may dissolve away the iron image before a substitution of the platinum is effected.

The addition of a little glycerine to the oxalate of potassium developer slows the development which enables the printer to some extent to better judge of the progress, but is hardly of special advantage.

I would not recommend the beginner to work with the sepia paper until he has acquired some experience with the black toned paper. There is great danger of encountering uneven tones.

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## SALONISTIC

By a Layman



NE of the observations which is forced on the mind of an observer when viewing the pictures of our Salon exhibitions of photographic art, is the vast complexity and difficulty of photographic technology.

Before the mysteries of manipulation the non-professional mind is forced into a position of constrained modesty when contemplating its ignorance. But when it comes to considering the real end and aim of photography, the question of how the finished picture impresses the beholder--the layman asserts his right of judgment with more confidence.

Technical knowledge is of course necessary for proper appreci-

ation of technical success or failure. But it belongs to the means and the final value is derived from the end in view.

Any process which merely exhibits great difficulties overcome, has no value save as professional gymnastics. Art in photography comes within the province of lay criticism, just as art in general addresses itself to the world at large and not to any special jury of professional critics.

The consideration of the technical methods of any art partakes of the nature of a trade and demands special technical study for its comprehension. The consideration of its broad effects, however, is not technical, but demands rather a culture of the sensibilities, and an extension and quickening of human sympathy. These attributes are not confined to any particular body and all who possess them are entitled to speak the thoughts which stir within them on this subject.

Photography has taken upon herself the soaring ambition to covet a place in the category which includes Raphael and Meissonier. There is a burning desire to infuse the thrill of action into their compositions, or even to make their disposition of figures and accessories convey the gloss of an imaginative ideal. However we may consider this from the outside, it is evident that the capabilities of photographic processes are certain to be pushed to the verge of their actual physical competency by the enthusiasts, and leaving them alone to find the utmost extent of their reach in a direction where the bounds are certainly near, we may consider the relative value of what can be and has been done in artistic photography of recent date.

The ideals of landscape photography may be poor and mean, measured by the ambitions of the imaginative photographer, but then they are, we might almost venture to say, not only attainable, but actually attained.

At any rate many of the examples exhibited give us a delightful feeling of rest in the contemplation of full achievement. They show masterly skill, directed with consummate judgment, towards an end within reach. Many partial failures and shortcomings we may see, but we also see that the technical processes used can be moulded by master hands to produce work that fills its niche. And its niche we consider no low one.

The human sympathies connected with the outward aspect of nature, are neither so complex nor so strong as those connected

with the outward aspect of man. Action does not enter, nor does visible feeling, into landscapes. But sublimity, beauty, loveliness, tranquillity, loneliness—all these do enter. These, and such as these, are the prominent feelings expressed by all landscape.

And they all come perfectly within the range of the camera.

Color is yet beyond its power, though the exquisite gradations of tone which are attainable seem hardly to leave room for regret, so perfectly does this tone convey the feeling of landscape.

But the selection and composition which make art of the lavish beauty of nature, and the power of combining exquisite wealth of detail with a large freedom of general effect, are within the natural bounds of photography.

It may be a distinctively Philistine utterance to say that with these powers the best landscape photography ranks with the best landscape painting. It at any rate challenges close comparison.

In passing to the consideration of the more difficult and complex forms of photographic art, we may briefly consider the sea views which have come prominently forward since the perfection of the means of instantaneous photography.

They are landscapes with a difference, and they may be made to possess all the virtues of the best landscapes. But there is more of motion and active life in the impression which a sea view leaves on the mind, and the camera is not so strong in catching the points which suggest motion as it is in conveying the idea of tranquillity and poetic repose.

Still there are sea views that have graced our Salon walls, which in composition, breadth and spirit, held the ground for photography about as firmly as landscape.

Portraiture is the mainstay of photography professionally. It seems on first thought to be a branch of art which photography might compass in its length and breadth and depth.

It might be said, it consists simply in transferring the sitter before you to the sensitive film, but the demands of real portraiture are greater. Besides the external individuality it must portray also the inner-man, must "read the mind's discernment in the face."

The weakness of the photographic art seems to be in the feeling of disappointment with the compass of portraiture, pure and simple.

Violent lights, strained postures, bizarre accessories are called into requisition to produce a sensational effect.

The jaded taste of the public it seems, it is necessary to goad on with exaggerations and unnatural effects.

There is an ostentatious search for mere novelty to the neglect of simple excellence. A picture of a head or figure posed with that exquisite feeling for the line of gravity which is such a powerful feature of the best figure work in painting, lighted intelligently not violently, becomes a transparent medium for the expression of character.

Many persons consider genre photography the most legitimate open to the photographer because entirely within the scope of the processess, and yet possessing large possibilities for artistic expression.

This is doubtless true of the more modest and self-contained work, that which is not spoiled by any wild outreaching ambition.

But of that branch of the art which is not content to stand firmly on the solid ground, but must needs be hoisted by its votaries into the empyrean on a rickety and ridiculous ladder—it is not true. But these are rather the adventitious growths of any art, photographic or pictic. There are plenty of modest, self-contained artistic groups by photography at our exhibitions to give pleasure to the beholder. Simple, homely scenes easily posed, and well-grouped, with congruous accessories, and with no action or idea involved that makes the thought of the camera an absurdity, are charming and artistically good.

Much of the best of the current life of to-day comes under this head, especially home life. There is a never-ceasing charm about the endless variations which can be played upon such themes, and the exercise of such delightful art should have power to keep the wild ambitions of would-be-high-art photographers from straying. But unwise attempts are of course constantly being made, and are likewise constantly striking on rocks, of which the most dangerous appear to be attempts at "historical" or imaginative photography and attempts at representation of vivid action.

The strongest reason for avoiding historical photography would appear to be the incongruity of supposing the camera present at a time when it was not dreamt of, but aside from this, the accessories, costume, etc., can never be made satisfactory, and the whole effect is theatrical.

The difficulty of photographing intense action is not met by instantaneous photography. When figures are posed to look as though they were in action, the falseness of it is seen at once; when figures are standing still they will look so, despite the greatest possible care on the part of the poser to simulate action. And when they are in motion the impression they produce is a complex one, and the instantaneous view petrifies them in only one of the phases of a series, the whole of which is necessary to convey the idea of motion.

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## PLAIN SILVER PRINTING

(A Paper read by Dr. Caspar W. Miller at the Stated Meeting of the Photographic Society of Philadelphia, June 14, 1899.)

**I**N the older descriptions of the plain silver process, the point most emphasized was to "keep the image on the surface," for, it was said, if the image be allowed to sink into the fibre of the paper, dullness and flatness will result. This idea was partly due to a misconception, and partly to a different standard of work in those days. It is true that if a sheet of ordinary photographic paper be salted by long floating or immersion in such a manner that the salt penetrates well into the fibre, and then be sensitized by the usual short floating, the prints will likely be flat and "sunk-in" looking. But is this due to the fact that the image is not confined to the surface? No; it is because there is so much salt present that there is not sufficient excess of free silver nitrate to properly sensitize the silver chloride. For it is a well known fact that, while silver chloride alone readily darkens to a certain tone, it does not reach the full depth except in the presence of silver nitrate. If this paper be soaked in the silver bath until an excess of the latter salt obtains throughout the entire thickness, it will then be found to print properly, and without any sunk-in appearance, though here, certainly, there can be no question of the surface image. So far from a thin, superficial image tending to brilliant blacks, the reverse is the case, since the thicker the sensitive film the thicker will also be the resulting deposit, and the more thoroughly will it obscure the white color of the underlying paper. A mealy

black is simply one in which the deposit is so thin or imperfect that the paper can be seen through it.

But, as has been said, another factor made itself felt in the precept to keep the image on the surface ; by so doing greater sharpness could be obtained in the detail. This is true, for it is evident that, as the action of the light penetrates into the paper, the distance between the negative and that stratum of the paper where the printing is going on is constantly increasing, and therefore the image must become less sharp just as it would were we gradually to withdraw the negative. In the old days this was a consideration of importance, for, if negative and print were not microscopically sharp all over, the work was a failure. But with the advent of the platinotype all this was changed, and we have come to recognize that the merits of a picture are not gauged by the amount of incisive detail which can be made out per square inch of surface.

Such appears to have been the origin of the mistake, and it has been diligently spread and perpetuated. One of the most prominent professional photographers in this city told me a few days ago that he would like to make plain silver prints, but, after trying a number of different papers, had been obliged to give up the idea, because he could find none which would keep the image sufficiently on the surface to give the proper brilliancy, and asked me what I thought of resizing the paper with glue. I do not say that it is impossible to get good, rich blacks from a superficial image ; for with carefully prepared paper, a suitable negative, and, not least important, a suitable light, it undoubtedly is sometimes possible to get fine results. We have all seen such. But the difficulty of making a really first-class print is so great, compared with the ease by which any number with purplish gray tones or mealy shadows may be turned out, that one rarely sees silver prints exhibited. But once use a rough-surfaced, slightly bibulous paper, get the print well into the fibre, and the difficulties disappear. Any hard-textured, firmly compressed paper is to be rejected. Ordinary photographic paper is not very satisfactory. The best which I have ever found was the old cold-pressed Whatman drawing paper, made ten or fifteen years ago. So far as I know, however, this cannot be obtained. The present Whatman "N" is very soft, and gives beautiful results, but lacks the strength and coherence necessary to withstand the long

immersion in the different solutions and wash water incident to silver printing. If one tries to use it without sizing, about half of the prints are lost before they have been sufficiently washed, and sometimes soften to such an extent that in lifting from one dish to another the piece taken hold of tears off before the print has been raised from the liquid. This difficulty can be remedied by sizing, though only with some loss of the soft effect. However, if the sizing be kept at the lowest limit, the difference is not very noticeable, and we obtain a paper which is capable of readily yielding beautiful prints. The examples which are in your hands this evening were made on this paper, according to the following formulæ. Whatman "N" paper is soaked for about eight minutes in

Gelatin,.....	2 1/2 drams.
Sodium chloride,.....	2 1/4 "
Water,.....	30 ounces.
Chrome alum (10-grain solution),...	1 ounce.

Care must be taken to watch for air bubbles, so that they can be promptly removed, and the paper is best turned over once or twice in the bath. It is very desirable to use chemically pure sodium chloride, as, if the ordinary domestic article be employed, the salted paper will not keep, owing to the presence of magnesium chloride, which is found in table salt. On account of the hygroscopic qualities of the magnesium salt, the paper is always damp, and decomposition is likely to result.

After the paper is dry, and shortly before printing, sensitize by brushing freely with the following solution :

Citric acid, .....	120 grains.
Nitrate silver,.....	70 "
Water (distilled),.....	1 ounce.

As soon as the paper has once more become dry it is ready to print, no fuming being necessary. The printing is carried rather farther than for albumen, and thin negatives are much better exposed under green glass. As it is difficult to get such glass free from bubbles and other imperfections, the following plan, suggested to me by Mr. Ives, may be used instead. Fix an unexposed gelatine plate, wash and soak in a strong solution of naphthol green. This stains the gelatine film, and when dry it answers every purpose of green glass. After printing, wash thoroughly

until all the free silver nitrate is removed, and tone in any suitable gold bath. The present prints were toned with the common bicarbonate bath, used a little weaker than usual, or about 1 grain gold chloride to 16 ounces of water. In a strong bath the prints tone so rapidly that it is difficult to stop at just the proper point. If a pure, neutral black be desired, the toning is carried a little farther than for albumen. The treatment after toning is the same as for albumen.

The only objection which can be made to the use of absorbent paper is that more silver is needed to sensitize and more gold to tone. Thus, a little less than two ounces of the sensitizing solution are required for one dozen  $6\frac{1}{2} \times 8\frac{1}{2}$  prints, and about three grains of gold chloride. The cost of the above quantities will be about 30 cents, while the paper itself costs 13 cents more. If we allow 5 cents more for the salting bath, hypo, and incidentals, we get a total of 48 cents per dozen. This estimate is based on retail prices, and by judicious buying can be considerably reduced. As here given, it will be found about one-third less than bromide or aristotype, and less than half as much as platinum. So that, even in the expensive form advocated, silver printing is still the cheapest process by which first-class results can be obtained. In practice the advantage in cost is still greater, because with silver almost every piece of paper exposed results in a good print, which, except in the most skilful hands, cannot be said of most processes. As to the results to be obtained, I prefer to let them speak for themselves. No. 1 is from a flat, weak negative, that will scarcely give a platinum print. No. 2 is from a good negative, full of rich half-tone, but with almost clear glass under the bridge. No. 3 is a well-known view chiefly composed of black and white. It and the shadow in the preceding show what can be done with blacks, and the three taken together cover about the entire range of practically useful black tone values. No. 4 is a print from a rather hard negative on Whatman's "N" paper without any sizing, but the same quantity of salting. Of course I do not claim any originality in regard to the idea of using drawing paper to make prints on, but if the direct stand which is here taken, in opposition to the idea of keeping the image on the surface, shall have some effect in doing away with this popular, but, as I believe hurtful, delusion, I shall feel that this paper has served a useful purpose.

**RECENT PATENTS RELATING TO PHOTOGRAPHY**

- 631,657. Picture frame, Ernest Oldenbush, Jersey City, assignor to W. Schimper & Co., Hoboken, N. J.
- 631,550. Kaleidoscope, George Wale, Troy, N. Y., assignor to American Symmetroscope Company, Portland, Me., and Boston, Mass.
- 632,220. Photographer's Tray, Wm. H. Lewis, Huntington, assignor of one-half to E. & H. T. Anthony & Company., New York, N. Y.
- 631,963. Magazine-camera, John A. Mosher, Chicago, Ill., assignor to Adams & Westlake Company, of Illinois.
- 632,064. Tripod, David J. Roberts, Pittsburg, Pa.
- 632,736. Holding and spacing device for photographic films, Horace W. Munsey, Chester, Pa., assignor to Eastman Kodak Company, of New York.
- 632,788. Album with detachable pictorial post-cards, Jacob Philipp, Vienna, Austria-Hungary.
- 632,437. Means for and process of making printing surfaces by photography, John T. Bentley, Englewood, N. J.
- 632,435. Photographic character, John T. Bentley, Englewood, N. J., assignor to Luciform Company, of New York.
- 632,436. Photo-reproduction process, John T. Bentley, Englewood, N. J., assignor by Mesne assignments, to Luciform Company, of New York.
- 632,670. Photographic character, John T. Bentley, Englewood, N. J., assignor to Luciform Company, of New York.
- 632,649. Photographic holder, John N. Goldberg, Hopkins, Minn.
- 632,573. Photographic camera, Frederic E. Ives, Phila., Pa.
- 632,472. Kinetoscopic apparatus, Alvah C. Roebuck & F. McMillan, Chicago, Ill.
- 632,431. Photographic camera, Isaac G. Sigler, Los Angeles, Cal., assignor of one-half to N. W. Tarr and H. McComb, Kingman, Ariz. Ter.

**TRADE-MARKS:**

- 33,417. Photographic developers, Actien-Gesellschaft fur Anilin Fabrikation, Berlin, Germany.
- 33,418. Photographic developers, Actien-Gesellschaft fur Anilin Fabrikation, Berlin, Germany.

## PROSPECTUS OF THE AMERICAN INSTITUTE PHOTOGRAPHIC SALON

To be held in the Institute's new gallery, No. 19 West Forty-fourth Street,  
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PICTURES, to be accepted, must have a motive for being taken, coupled with artistic feeling.

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No pictures will be accepted which have been shown in New York, at any previous open exhibition.

All exhibits are subject to the approval or rejection of the judges.

A commission of fifteen per cent. will be charged on all pictures sold.

The management will not be responsible for any loss or damage to pictures submitted for the exhibition; but every care will be taken to prevent such occurrence.

Full particulars for catalogue must be given on a card provided by the Secretary, which must be attached to the back of each picture.

Experienced men will be engaged to unpack, repack and deliver to carriers all exhibits, free of charge.

Nothing but title and exhibitor's name to appear on front of picture.

No exhibit, whether accepted or rejected, can be removed before the close of the exhibition.

Exhibits must be delivered no later than Saturday, November 4th, carriage prepaid, return charges to be collected by carrier.

Boxes containing pictures must be screwed instead of nailed, and your home address must be marked on under side of cover for return of pictures. The management will not be responsible for pictures marked in any other way.

You are invited to contribute works for the exhibition, subject to the above conditions.

To foreign Exhibitors.—H. Snowden Ward, Esq., F. R. P. S., of No. 6 Farringdon Avenue, London, E. C., England, has kindly consented to take charge of all foreign exhibits. An English edition of this prospectus, entry forms, etc., and any information desired in regard to the Salon will be furnished by addressing Mr. Ward.

Jury of Selection.—Pirie MacDonald, Esq., Albany, N. Y.; E. Lee Ferguson, Esq., Washington, D. C.; Hinsdale Smith, Esq., Springfield, Mass.; Francis C. Jones, Esq., N. A., New York City; Rudolf Eickemeyer, Jr., Esq., Yonkers, N. Y.; Alexander Black, Esq., Brooklyn, N. Y.; E. Wood Perry, Esq., N. A., New York City; W. Granville Smith, Esq., New York City.

All pictures for the exhibition must be addressed to J. W. Bartlett, M. D., Secretary, Photographical Section American Institute, No. 19 and 21 West Forty-fourth Street, New York City.

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ELMIRA, N. Y., August 23rd, 1899.

AMERICAN JOURNAL OF PHOTOGRAPHY :

DEAR SIRS :—Your favor of August 21st, enclosing check for \$10.00, for award of First Prize in July Competition, at hand. Many thanks for same; also good words for prints. The exposure was made the 30th day of June, 1899, at 3.45 P. M. The camera was Baby Wizard, 4 x 5, R. R. Lens. Time, one-fifth of a second; stop, 16. I waited over half an hour until I thought the conditions about right for the exposure. The young ladies sitting in the trees got very tired waiting. Again thanking you for awarding me the first prize, I remain,

Yours very truly,

CHAS. H. CARROLL.

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## NOTES

**Ammonium Persulphate** continues to hold its own as the ideal reducer.

Dr. Heilheim points out in the German periodical, *Der Amateur Photograph*, that samples differ in their action some having an excellent record while others are entirely inert.

Old solutions are found to be more active than new, by reason of the liberation of sulphuric acid by decomposition. It is therefore recommended to add a trace of sulphuric acid to the solution

of the persulphate. Excess of acid even in a slight degree, however, acts very injuriously on the film.

The Farmers' solution, has been found to be more applicable for reduction of veil from over-exposure. The persulphate has also been recommended for removal of yellow stains from whatever cause.

A two per cent. solution is used and after immersion and removal of stain it is necessary to stop action by soaking for a short time in solution of sodium sulphite, 5%.

**Bichloride of Mercury and Ammonia Citrate of Iron as a Medium for Prints.**—E. Valenta in *Photographische Correspondenz*, gives a method for printing with paper prepared with bi-chloride of mercury and citrate or tartrate of iron and ammonia.

The paper is first prepared with a sizing of arrowroot and dried, then brushed over with the mercury and iron solution. The process is still under trial, but the results obtained are of such excellent character as to warrant a continuation of the experiment.

M. Valenta recommends the following method.

- a. Water,.....200 grammes.  
Ammonia Citrate of Iron, (the green salt) 40 grammes.  
Citric Acid,.....4 grammes.
- b. Water,.....200 grammes.  
Gelatine,.....6 grammes.

These two solutions should be mixed in the dark room under yellow light with a solution consisting of

- Alcohol,.....100 C. C.
- Bi-chloride Mercury,.....24 grammes.

The paper is brushed over with the solution warm, evenly distributed over the surface with a blender brush and dried.

To get the best results, a rather strong negative is necessary in printing.

The parts exposed to light under the negative assume a brown hue, forming a pale brown image upon a greenish yellow ground. When washed in water, the salt on the unexposed parts of the paper is dissolved and a pale brown picture remains upon the white surface of the paper.

A vigorous black image is produced by intensification by wash-

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ing thoroughly the print and subjecting it to alkaline developer, On drying it a temperature of  $190^{\circ}$ —a lower temperature not giving as pleasing tones.

**The Photo Kronik** publishes a method of increasing the energy of the Hydroquinone developer by the addition of Iodine. It is said to give excellent results and adds vigor to the negative.

A working formula is constituted as follows :

Water,	100 c. c.
Sodium Sulphate,	4 grammes.
Hydroquinone,	1 grammes.
(Lat. Solution Sodium Carbonase),	10 c. c.
Bromide of Potassium, (1-10)	3 drops.

Add to the above 3 drops of the following :

Water,	15 c. c.
Iodide of Potassium,	5 grammes.
Iodine,	$1\frac{1}{2}$ grammes.

After the Iodine has dissolved increase the amount of solution to 250 c. c. by adding water.

**The Preparation of Emulsions with aid of Electricity.**—On page 181 of the *British Journal of Photography* for the current year, are given the particulars of Herr Vollenbruch's application of electricity in the preparation of emulsions. Prof. Valenta has further experimented upon the lines described by Vollenbruch.—A cylindrical vessel, thickly plated with silver was fitted with a wooden cover, and through this was inserted a branching copper wire also thickly plated with silver.

The vessel was light tight and the wire was kept from contact with the sides of the vessel. The wire was connected with the positive and the wall of the cylinder with the negative pole of a Merdinger cell.

According to Vollenbruch's directions, a quantity of gelatine soaked in nitrate of silver, was broken up and placed in the vessel with the requisite quantity of bromide, to which three per cent. of ammonium chloride had been added. The wire was inserted, the vessel closed, and the electric current passed through the emulsion.

Trial plates were made from time to time from the emulsion so treated, dried and exposed.

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According to sensitometer tests, the plates were slow, and after twelve hours exposure to the current, reduced silver was found in the apparatus.

An unripe bromide emulsion similarly treated as above gave negative results, and after the experiments were completed, the surface of the wire and the interior of the vessel were found to be covered with a rough coating of silver.

**Dr. Victor Schumann** has been experimenting towards a solution of the much vexed question in photographic physics—the nature of the latent image, and has at least shown some new light on the subject.

A glass plate coated with a thin film of gelatine bromide of silver is found to resist the action of strong acids.

A plate which has been exposed, if placed in a strong bath of nitric acid, is not affected by the action of the acid when subjected to development. That is it develops as readily as an ordinary plate.

Nor is the image entirely destroyed when after development and fixation the plate is immersed in the acid.

Hence, it follows that the latent image does not consist entirely of reduced silver (metallic silver) as is sometimes asserted, and further, that the image after fixation, is only partially made up of metallic silver.

**R. Rapp, in Photo Correspondenz**, gives the following method of intensification for Platinum Prints, which are not found satisfactory after development. The tone is said to be pleasing.

Water,.....	50 c. c. m.
Cold sat. sol. of Gallic Acid,.....	50 c. c. m.
Acetic Acid, (No. 8).....	10 drops.
Sol. Nitrate of Silver, (1-10).....	2 grammes.

The wet platinum prints are immersed in this solution and allowed to remain until strengthened to degree required.

The turbidity of the solution occasioned by the mixture of Gallic acid and silver, is said not to affect the print, as the intensification is effected before the muddiness takes place.

After intensification the prints are well washed in three changes of water, acidulated with acetic acid.

The tone is a brownish sepia.

The bath succeeds best with fresh made prints.

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**The Actien Gesellschaft fur Anilin Fabrikation (Berlin)**, have put upon the market two new products. An intensifier denominated Agfa, which keeps indefinitely requiring only dilution for use.

The action is said to be rapid, the image darkening to a fine non-actinic color in a few minutes.

It is not necessary to blacken the image by subsequent immersion in ammonia as with the mercurial method.

The intensification is under control and may be carried to any degree, as the action though rapid is general.

The other agent is called by the poetic name, "Imogen."

It is a developer said to be more powerful than metol, but unlike metol, not at all injurious to the skin.

**Mr. John Carbutt**, the pioneer in gelatine plate manufacture in America, has introduced a new variety of Platino Bromide Paper. Mr. Carbutt has been experimenting with Bromide Paper for a long time, but has just put his product upon the market, being satisfied with the excellency of the results.

The new paper is called Vivax, and like other papers of the kind may be manipulated outside the dark room.

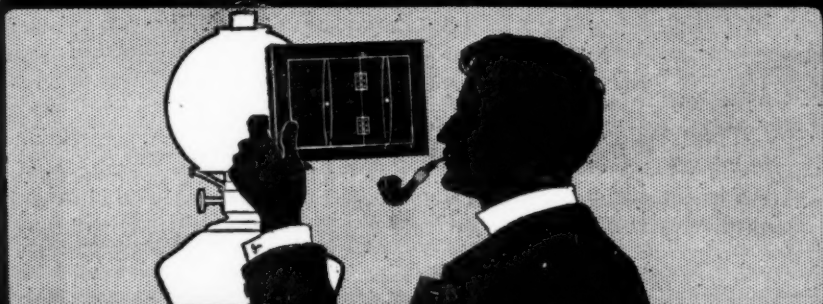
Vivax is certainly an appropriate name for this most excellent developing paper, the results being indeed *vigorous*. But we would add the term *Pulchra*, signifying beautiful, so delighted are we with the rich and brilliant prints we secured. There is no necessity of a specially adapted negative to have success with Vivax, since it is so perfectly under control during development that the exposure may be regulated and all the good qualities of the negative expressed with as much brilliancy and softness in the high lights, and with as much wealth in the deep shadows, as can be secured by any printing process we are acquainted with.

**The Illinois College of Photography, Effingham, Ills.**, has been so successful in management, that it has been decided to advance the tuition the first of the month.

Students are registered from all over the country, and the fall term promises to exceed any previous course.

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## BOOKS RECEIVED

**La Photographie en Ballon et la Telephotographie**, by Meyer Heine, Paris ; Gauthier Villais.

**Considerationes Generales sur le Portrait en Photographie**, by F. Dillaye, Paris ; Gauthier Villais.

**La Radiographie et ses Applications**, A. Londe, Paris ; Gauthier Villais. (Illustrated.)

**Photography**, by the Editor of *London Photography*, Iliffe, Sons & Sturmev, London.—An elementary work.

**Modern Photography in Theory and Practice**. Hand-book for the Amateur. (Illustrated.) Henry G. Abbott ; Geo. K. Hazlitt, Chicago.

The above books have just been received. We shall give them our study and report on their merits in our next number.

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## CONVENTION DATES

Photographers' Club of New England :

Boston, Mass., October 5th and 6th.

Secretary, G. E. Putnam.

The International Photographic Exposition :

New York, October 21st to 28th.

Philadelphia Photographic Salon :

October 22nd to November 19th.

Indiana Association :

Indianapolis, March 6th, 7th and 8th, 1900.

Secretary, W. O. Nicely, Bloomington, Ind.

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